

WHAT IS CLAIMED IS:

1. A simulation method comprising:
  - generating plural boundary points on a string formed on the surface of a material;
  - 5 obtaining a first length of a line segment between the boundary points;
  - calculating a displacement of the boundary point according to a process model;
  - moving the boundary point by the displacement;
  - 10 obtaining a second length of the line segment between the boundary points after the boundary point is moved; and
  - making reference to the first and second lengths to add or eliminate the boundary point.
2. A method as in claim 1, wherein
  - 15 said moving the boundary point by the displacement comprises:
    - obtaining an accumulated displacement by accumulating the displacement; and
    - moving the boundary point by the accumulated displacement when the accumulated displacement is greater than a displacement tolerance and
    - 20 clearing the accumulated displacement.
3. A method as in claim 1, wherein
  - said making reference to the first and second lengths to add or eliminate said boundary points comprises:
    - adding a new boundary point to said line segment when said
    - 25 second length is greater than a value obtained by multiplying the first length by a first factor exceeding 1; and
    - obtaining the first length of a new line segment divided by the new boundary point.
4. A method as in claim 3, wherein the first factor is 4 or less.
- 30 5. A method as in claim 1, wherein
  - said making reference to the first and second lengths to add or eliminate said boundary points comprises:
    - eliminating one of the boundary points of the line segment when the second length is smaller than a value obtained by multiplying the first
    - 35 length by a second factor less than 1; and
    - obtaining the first length of a new line segment independent of the

eliminated boundary point.

6. A method as in claim 5, wherein the second factor is 0.25 or more.

7. A method as in claim 3, wherein

5 said making reference to the first and second lengths to add or eliminate the boundary point comprises:

eliminating one of the boundary points of the line segment when the second length is smaller than a value obtained by multiplying the first length by a second factor less than 1; and

10 obtaining the first length of a new line segment independent of the eliminated boundary point.

8. A method as in claim 7, wherein an inverse of the first factor accords to the second factor.

9. A simulator comprising:

15 a node displacement-calculating section calculating a displacement of a boundary point in accordance with a process model;

a node moving section moving the boundary point by the displacement;

20 a length-calculating section obtaining lengths of a line segment between the boundary points before and after the boundary point is moved; and

a regulating section adding or eliminating the boundary point by making reference to the lengths before and after the boundary point is moved.

25 10. A simulator as in claim 9, wherein;

said node moving section accumulates the displacement to obtain the accumulated displacement, moves the boundary point by the accumulated displacement when the accumulated displacement is greater than a displacement tolerance and clears the accumulated displacement.

30 11. A simulator as in claim 9, wherein;

said regulating section adds a new boundary point to the line segment when the length after the boundary point is moved is greater than a value obtained by multiplying the length before the boundary point is moved by a first factor which exceeds 1 and is 4 or less.

35 12. A simulator as in claim 9, wherein;

said regulating section eliminates one of the boundary points of

the line segment when the length after the boundary point is moved is smaller than a value obtained by multiplying the length before the boundary point is moved by a second factor which is 0.25 or more and less than 1.

5           13. A simulator as in claim 11, wherein;  
            said regulating section eliminates one of the boundary points of the line segment when the length after the boundary point is moved is smaller than a value obtained by multiplying the length before the boundary point is moved by a second factor which is 0.25 or more and  
10     less than 1.

            14. A simulator as in claim 13, wherein a inverse of the first factor accords to the second factor.

            15. A program which is executed by a computer, the program comprising:

15           obtaining a first length of a line segment between boundary points generated on a surface of a material;

            calculating a displacement of the boundary point according to a process model;

            moving the boundary point by the displacement;

20           obtaining a second length of the line segment between the boundary points after the boundary point is moved; and

            making reference to the first and second lengths to add or eliminate the boundary point.

            16. A program as in claim 15, wherein

25           said moving the boundary point by the displacement comprises:

            obtaining an accumulated displacement by accumulating the displacement; and

            moving the boundary point by the accumulated displacement when the accumulated displacement is greater than a displacement tolerance and  
30     clearing the accumulated displacement.

            17. A program as in claim 15, wherein

            said making reference to the first and second lengths to add or eliminate the boundary point comprises:

            adding a new boundary point to the line segment when the second  
35     length is greater than a value obtained by multiplying the first length by a first factor which exceed 1 and is 4 or less; and

obtaining the first length of a new line segment divided by the new boundary point.

18. A program as in claim 15, wherein  
said making reference to the first and second lengths to add or  
5 eliminate the boundary point comprises:

eliminating one of the boundary points of the line segment when  
the second length is smaller than a value obtained by multiplying the first  
length by a second factor which is 0.25 or more and less than 1; and

- obtaining the first length of a new line segment independent of the  
10 eliminated boundary point.

19. A program as in claim 17, wherein  
said making reference to the first and second lengths to add or  
eliminate the boundary point comprises:

- eliminating one of the boundary points of the line segment when  
15 the second length is smaller than a value obtained by multiplying the first  
length by a second factor which is 0.25 or more and less than 1; and

obtaining the first length of a new line segment independent of the  
eliminated boundary point.

20. A program as in claim 19, wherein an inverse of the first factor  
20 accords to the second factor.